

ABSTRACT

A lithium battery having a cathode, an anode, and a separator interposed between the cathode and the anode, wherein the separator is an insulating resin sheet having a network structure in which a polymeric gel electrolyte is contained. The polymer electrolyte is prepared by polymerizing a polymer electrolyte precursor having a polymer represented by formula 1, a crosslinking agent represented by formula 2, and an electrolyte solution composed of a lithium salt and a non-aqueous organic solvents. Formula 1 is as follows:

Formula 2 is as

follows:

x ranges from 0.1 to 0.6 mol, y ranges from 0.1 to 0.8 mol, z ranges from 0.1 to 0.8 mol, R is an alkyl having 1 to 6 carbon atoms, n is an integer from 3 to 30, and R' is hydrogen or CH₃.